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(54) **FLIP COVER PLATE FOR MOBILE TERMINAL**

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H04M 1/02 (2006.01)

(52) **U.S. Cl.**
CPC ***H04B 1/3888*** (2013.01); ***H04M 1/0202*** (2013.01); *H04M 1/0214* (2013.01)

(58) **Field of Classification Search**
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USPC 455/575.8, 575.1, 347, 575.3, 90.3, 455/90.2, 566, 550.1, 73, 403, 422.1; 379/433.04, 428.01, 433.01, 433.13; 361/681, 679
See application file for complete search history.

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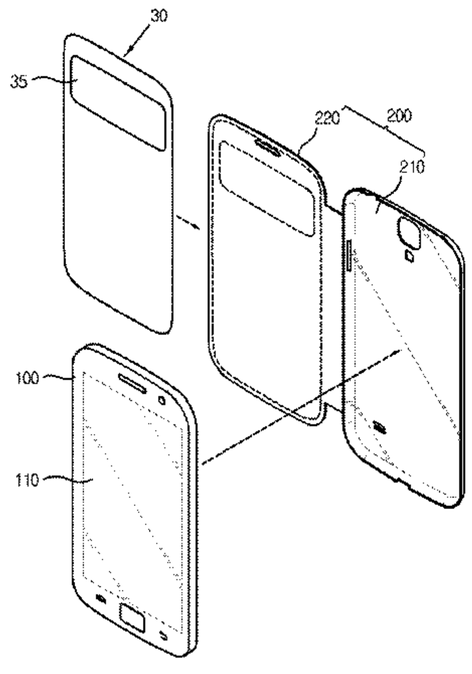
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(57) **ABSTRACT**

The present invention relates to a flip cover plate (**10**) for a mobile terminal, the plate comprising: a cover plate inserted into a flip cover which opens and closes the front portion of the mobile terminal; and a transparent window coupled to one side of the cover plate and exposing a portion of a liquid crystal of the mobile terminal to the outside when the flip cover is positioned at the front portion of the mobile terminal, wherein the transparent window is configured to be bonded to at least one surface of the cover plate corresponding to in opening of the flip cover. Accordingly, the present invention has an advantage of maximizing productivity compared to production through one by one cutting processes by means of a conventional numerically controlled machine tool. Furthermore, since the transparent window is not simultaneously molded when the cover plate is injection-molded, the present invention has advantages of simplifying the shape of a mold, thereby being capable of reducing manufacturing costs, as well as reducing manufacturing time and also the failure rate of products since the manufacturing of parts proceeds in parallel.

14 Claims, 9 Drawing Sheets



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Fig. 1

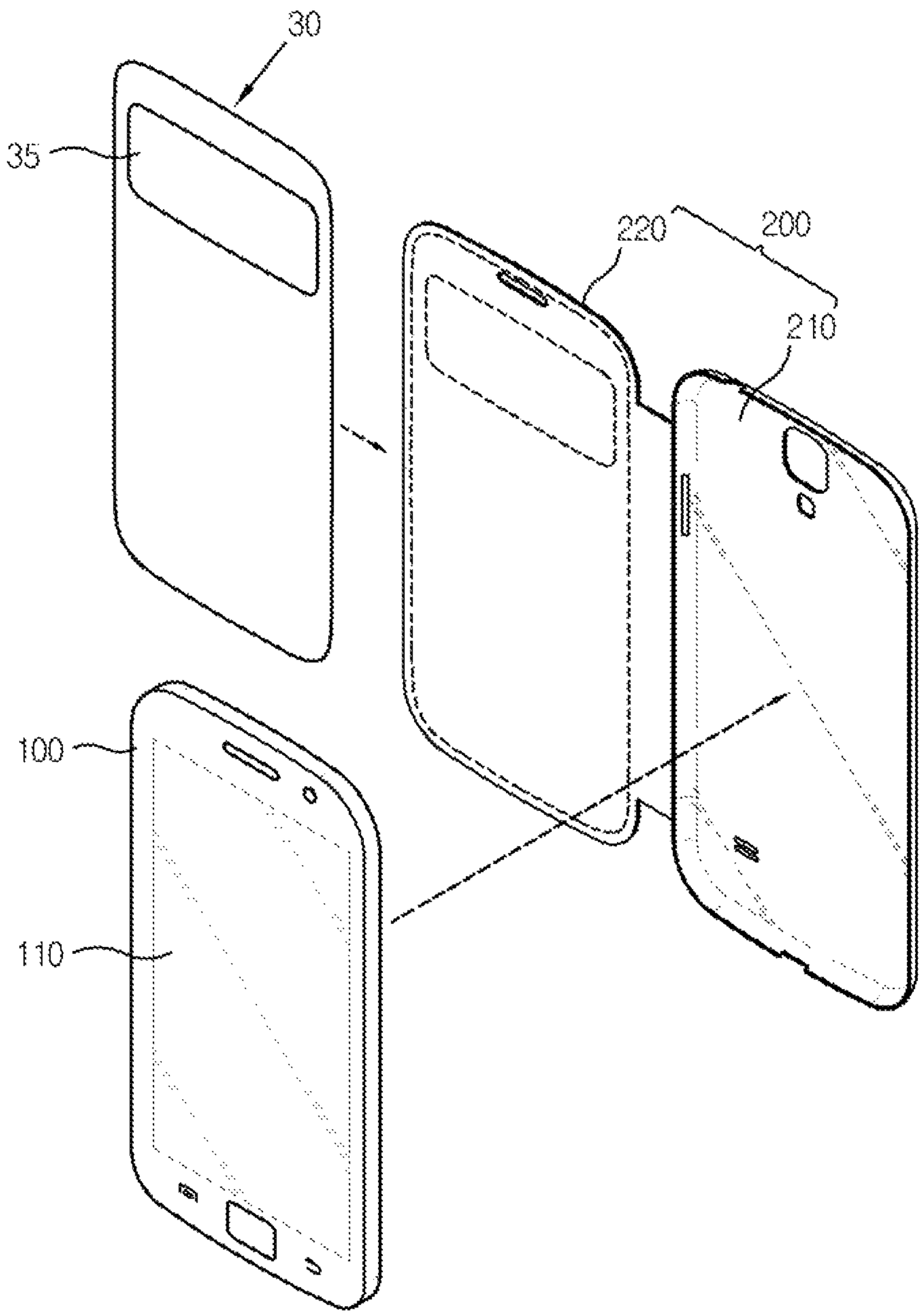


Fig. 2

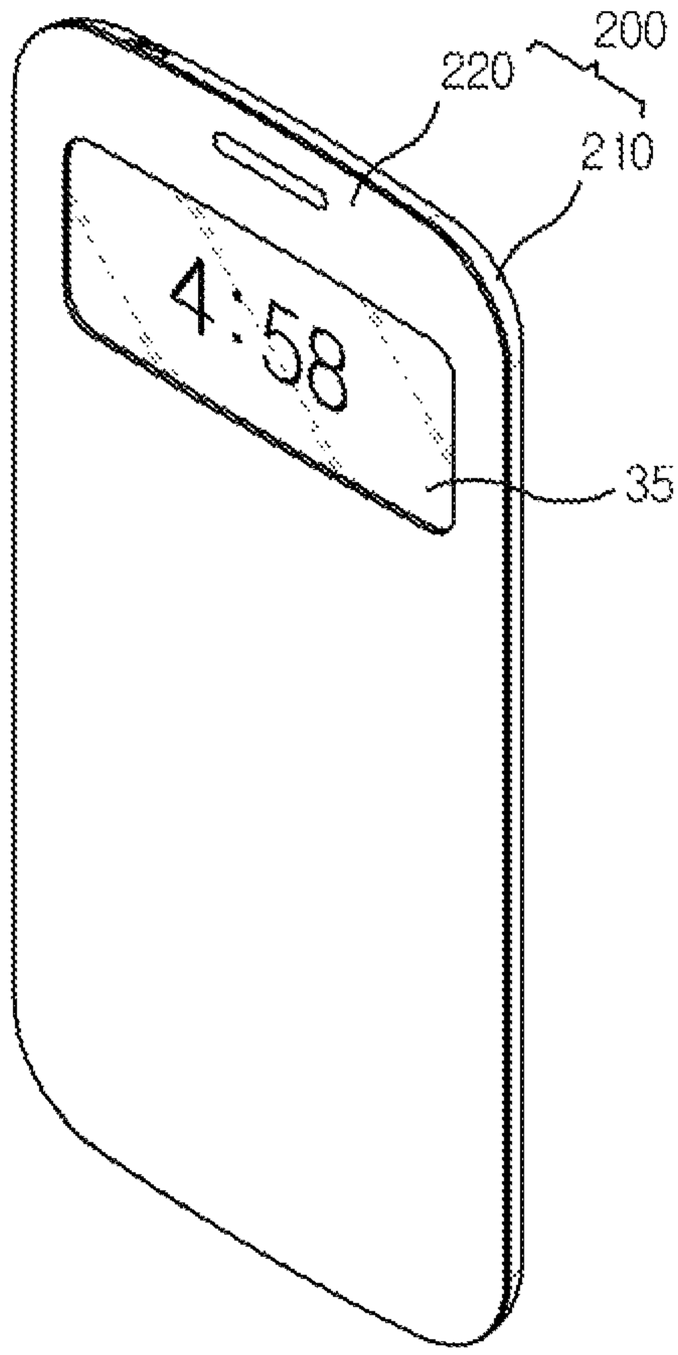


Fig. 3

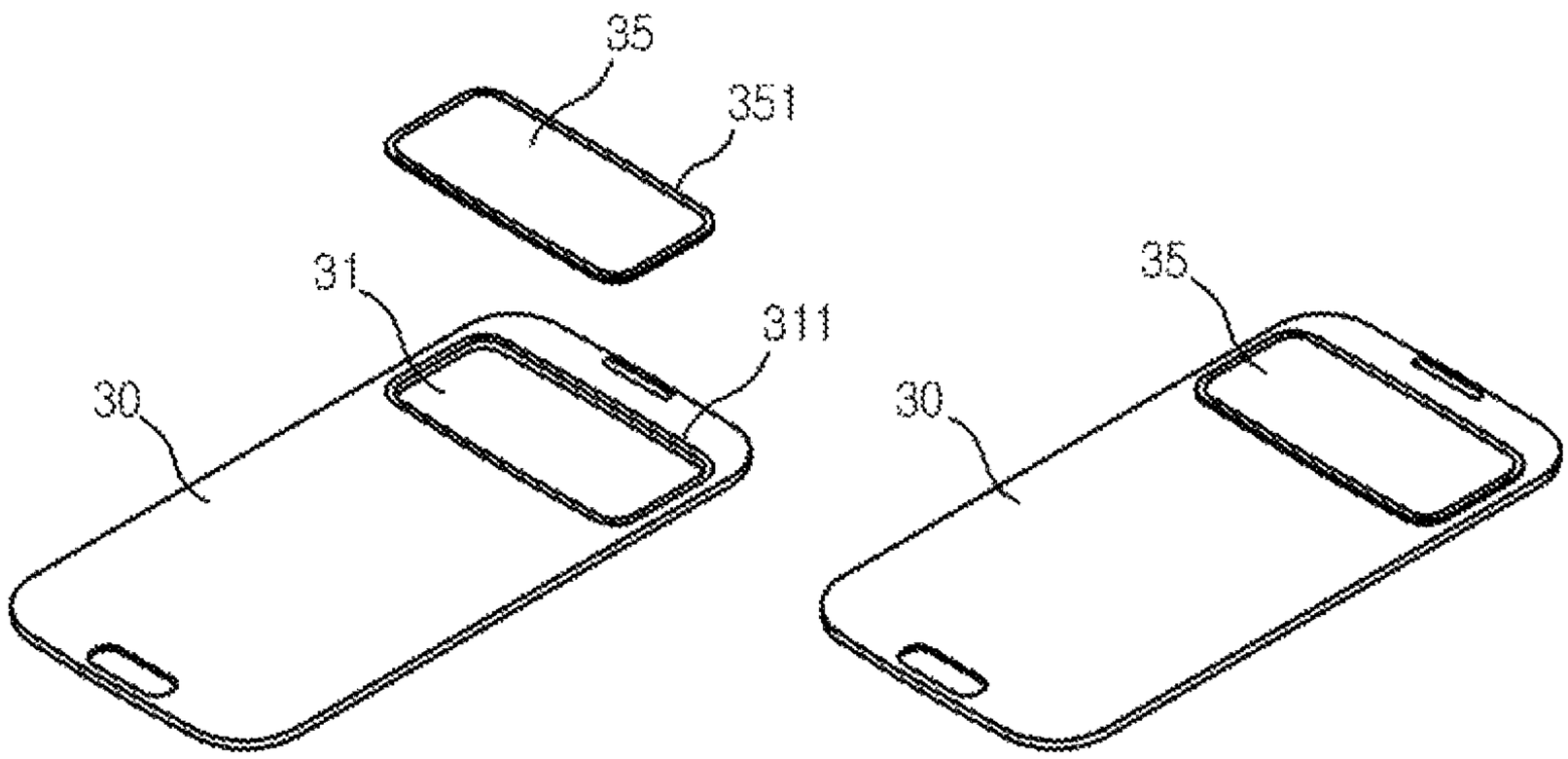


Fig. 4

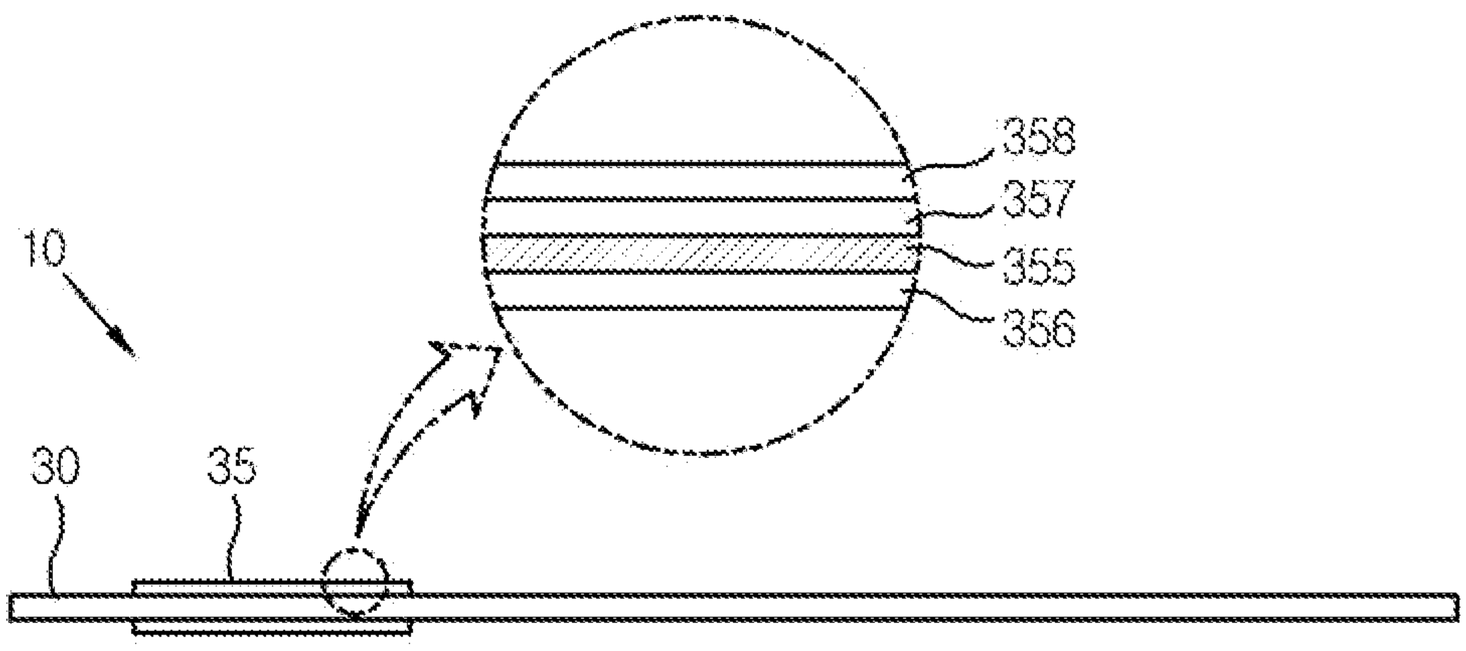


Fig. 5

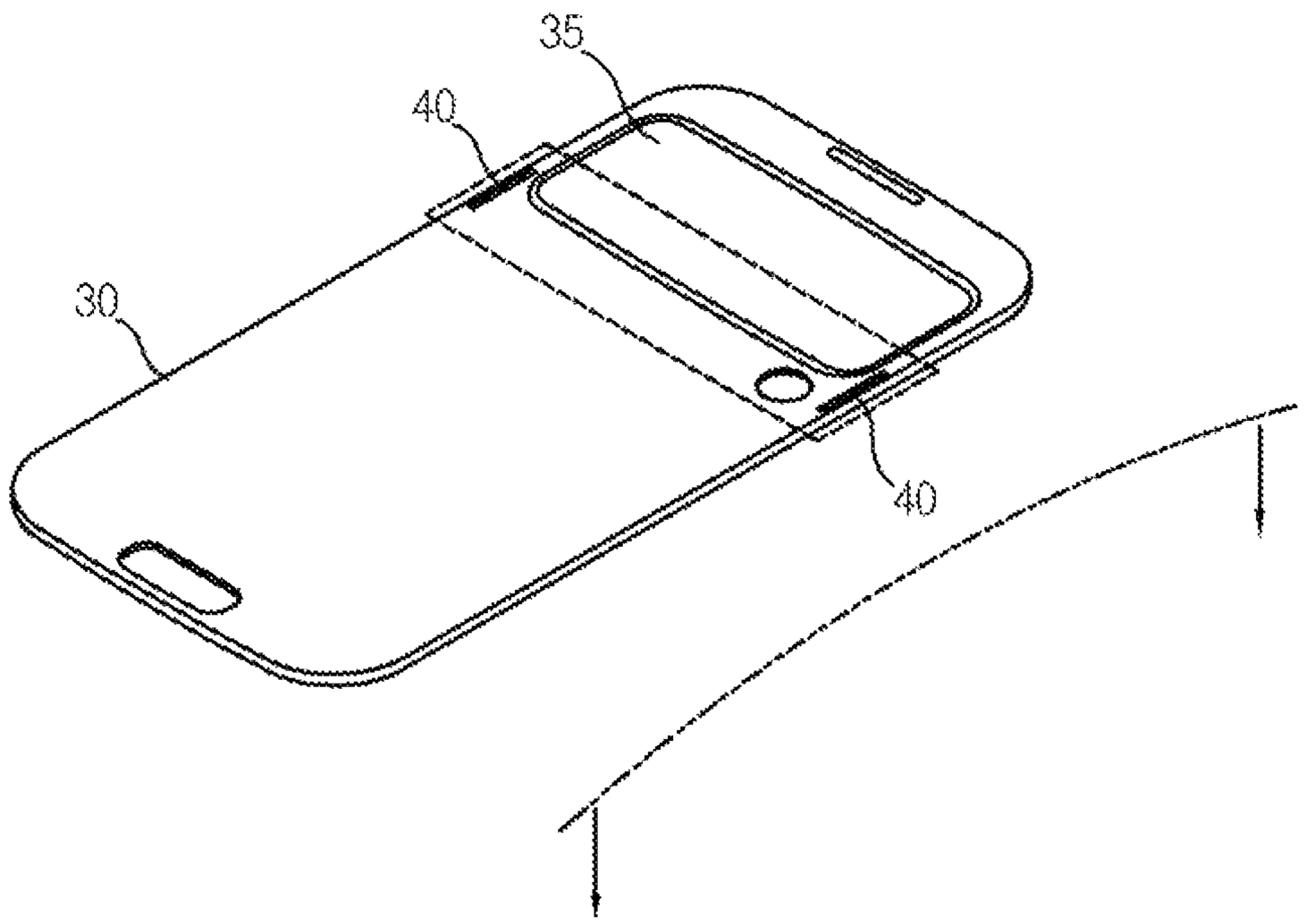


Fig. 6

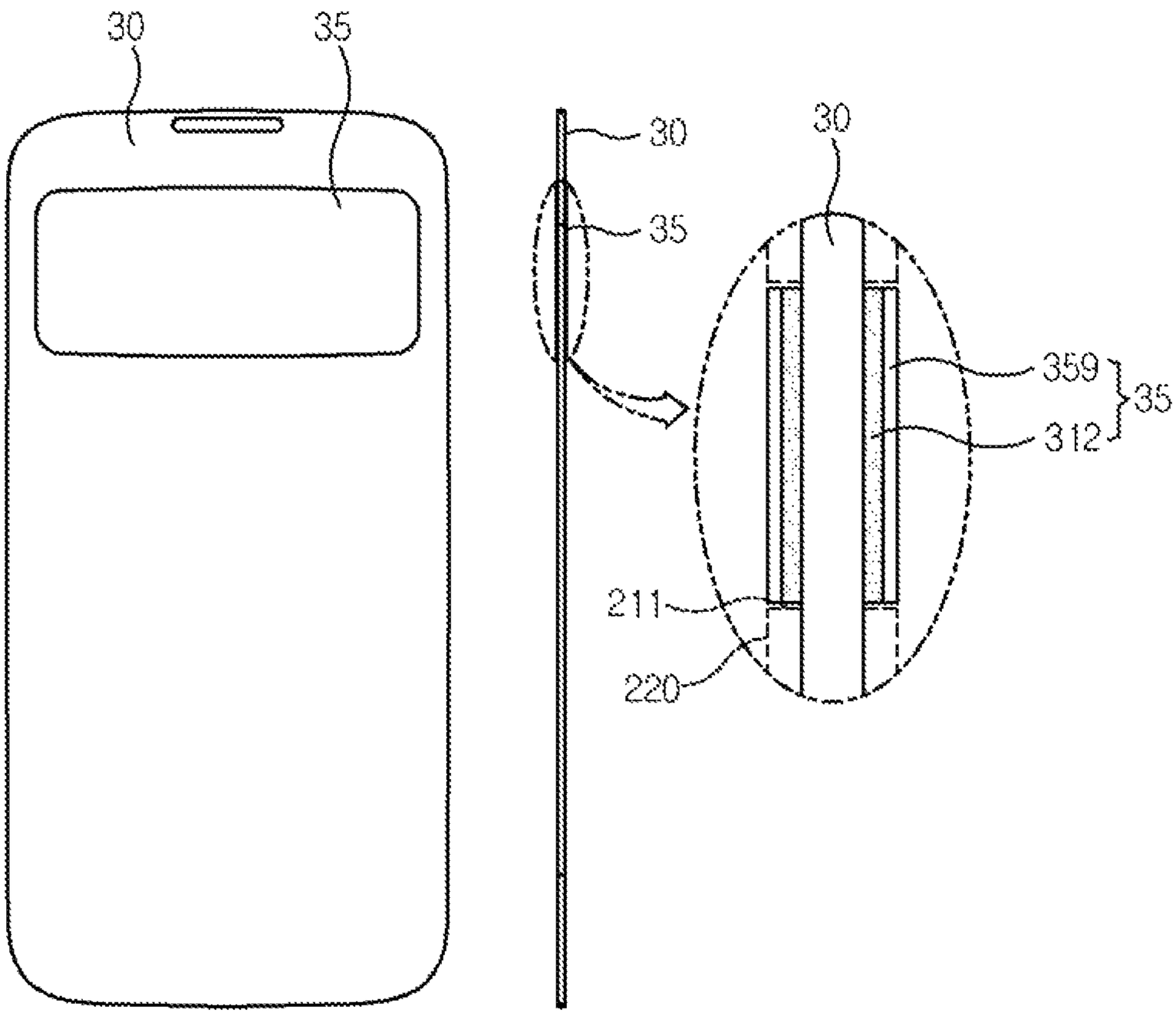


Fig. 7

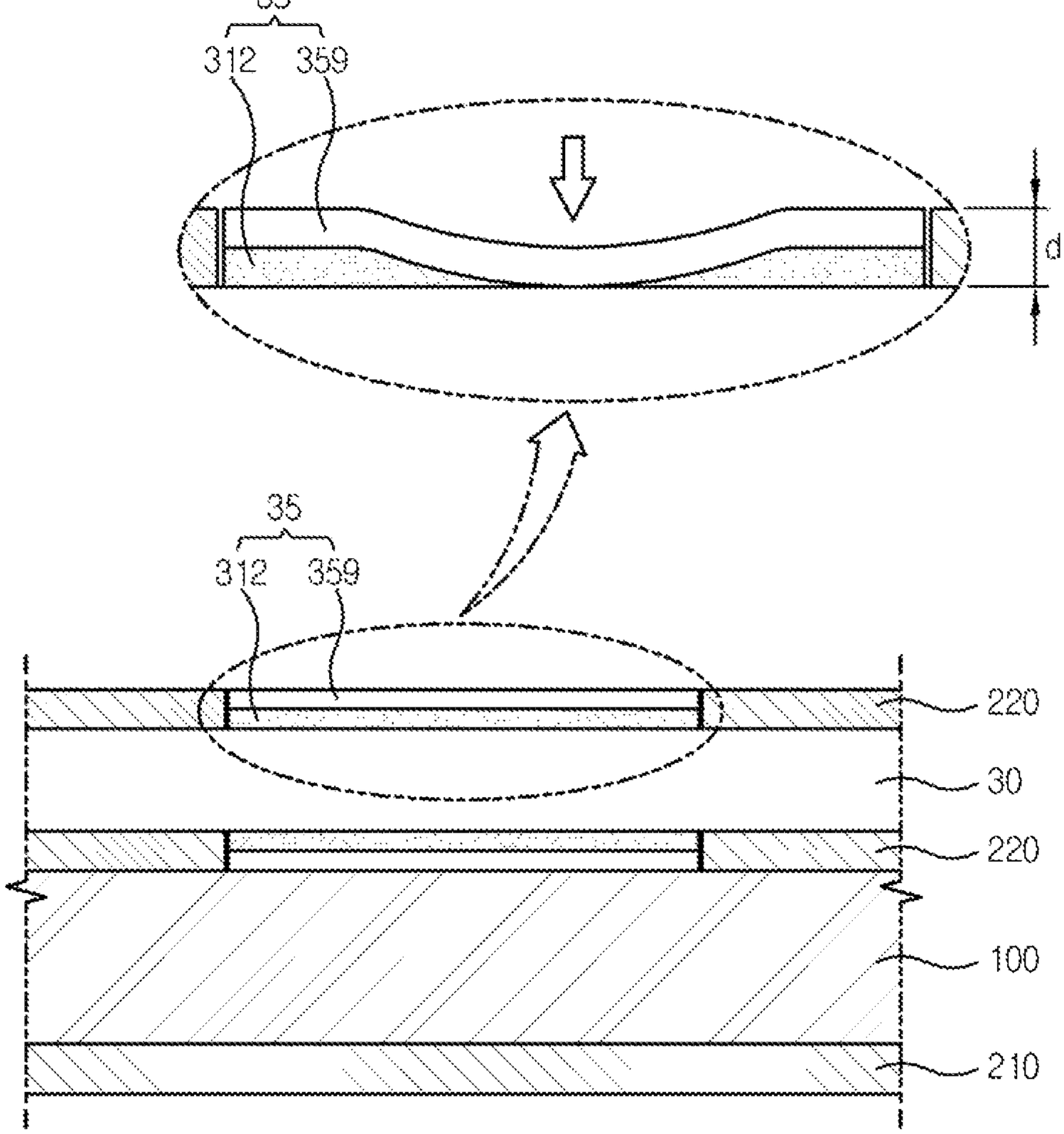


Fig. 8

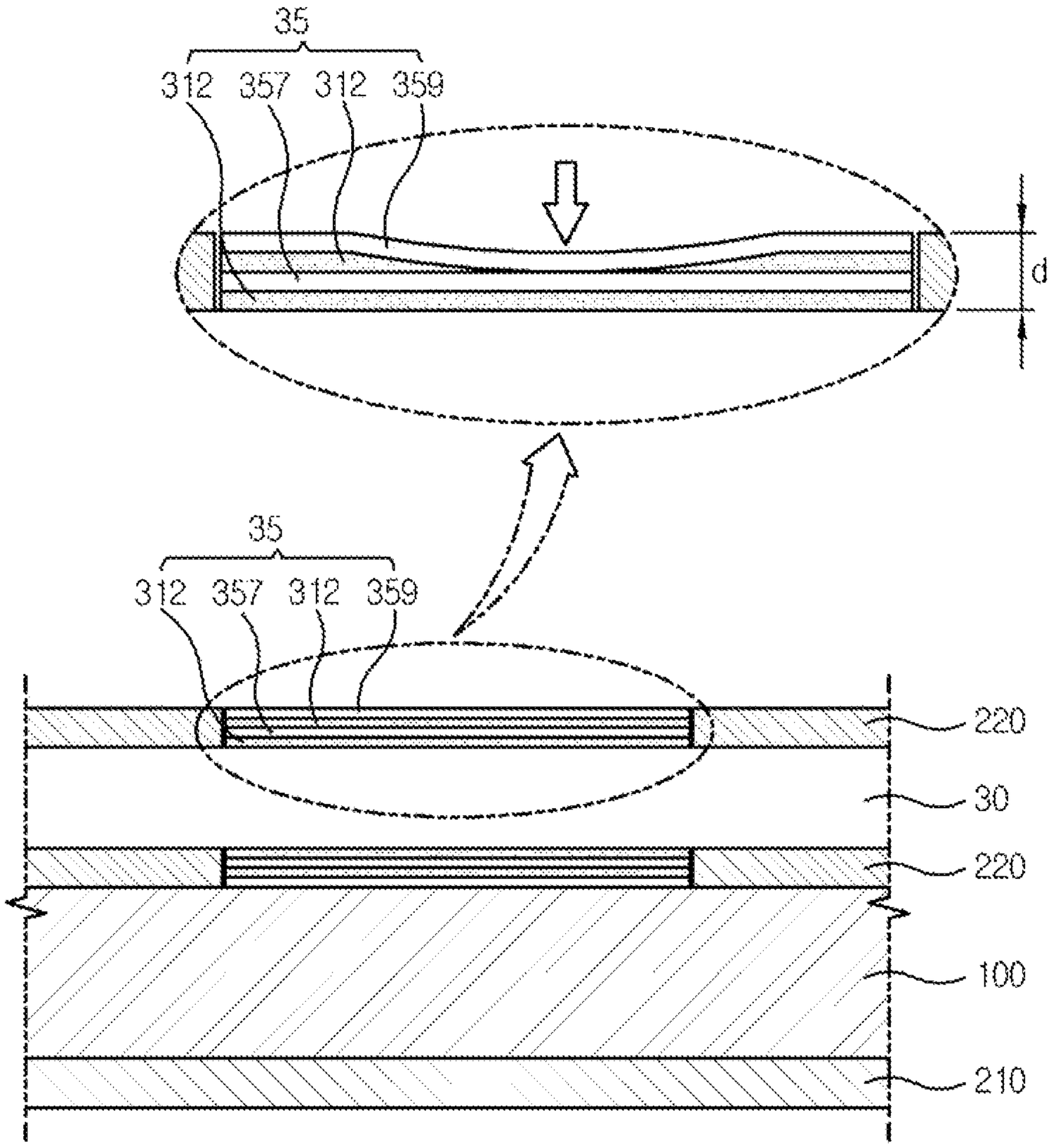
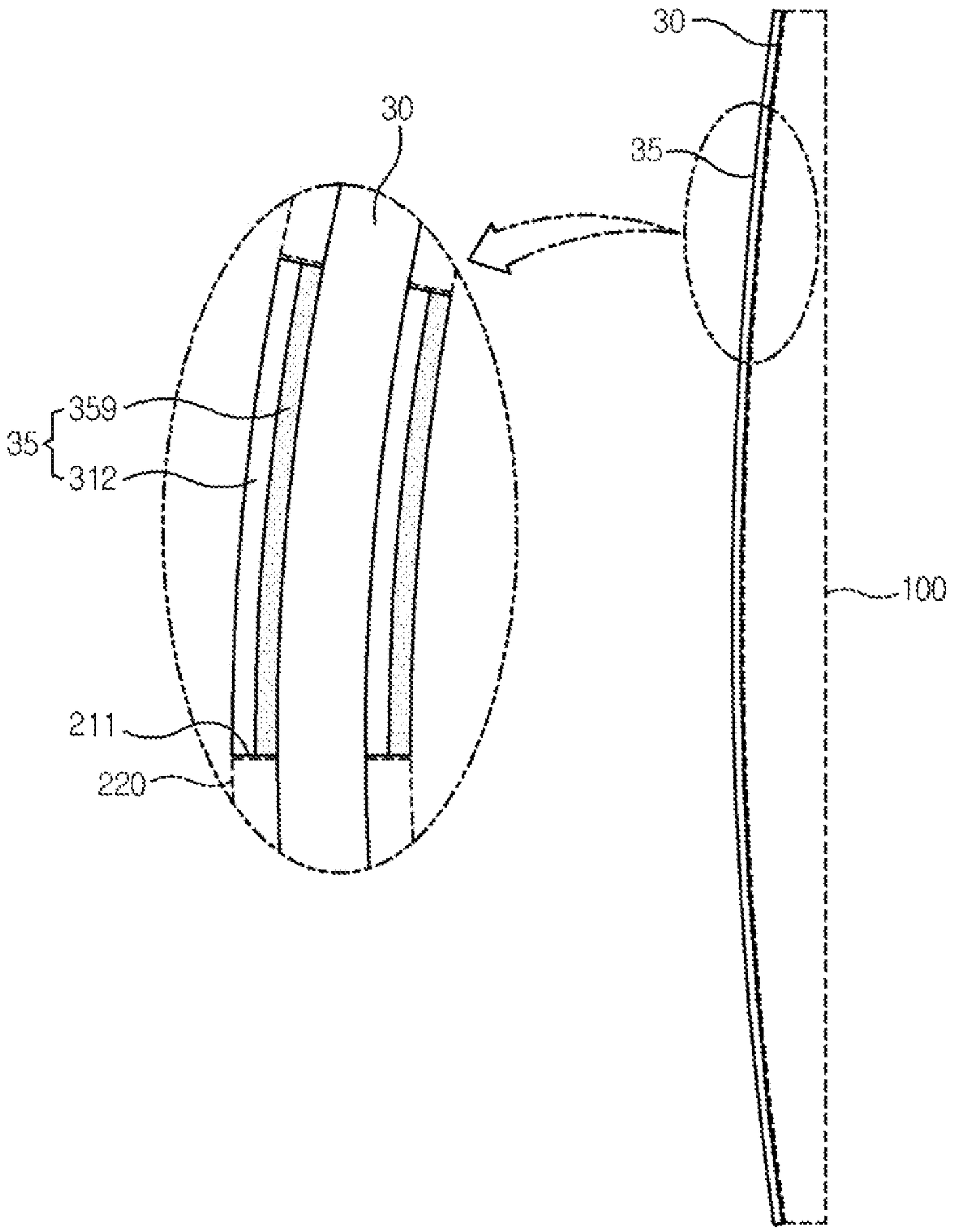


Fig. 9



FLIP COVER PLATE FOR MOBILE TERMINAL

TECHNICAL FIELD

The present invention relates to a flip cover plate for a mobile terminal, in which an injection molding process, instead of conventional individual processing through a machine tool, is applied to a cover plate, and a transparent window is separately formed and attached to the cover plate, thus leading to reduced manufacture costs for flip cover plates, maximized productability, and increased product reliability.

DISCUSSION OF RELATED ART

As use of smartphones, such as the Galaxy™ or Iphone™, becomes more and more commonplace, various accessories for mobile phones are coming to market.

Among others, smartphones equipped with various functions are selling expensive, and accordingly, protective cases are gaining popularity to protect the phones.

Referring to FIG. **1**, a protection case typically includes a case body **210** covering the rear and side surfaces of a mobile phone **100** thereof and a flip cover **220** rotatably coupled with the case body **210** at a side thereof to open and close the front surface of the mobile phone **100**.

A cover plate **30** is placed inside the flip cover **220** to maintain the shape of the flip cover **220** and to protect the front surface **110** of the mobile phone **100**.

Such cover plate has been conventionally manufactured by performing individual processing on a material, e.g., polycarbonate resin, using a machine tool, such as a numerically controlled (NC) machine.

As such, the manufacture of cover plate is done individually, i.e., unit-by-unit, resulting in low production efficiency and increased manufacture costs.

Further, such manufacturing process presents processing errors varying depending on the skills of the workers manipulating the machine tool, thus failing to allow finished products a constant level of reliability.

SUMMARY

To address the above issue, the applicant has proposed the technique that allows for mass production of protective case films, i.e., cover plates, in Korean Patent Application No. 2013-0060963 titled "MOBILE PHONE PROTECTION CASE FILM WITH TRANSPARENT PART AND METHOD FOR MANUFACTURING SAME."

Accordingly, the applicant has further enhanced his proposed method, and an object of the present invention is to provide a flip cover plate for a mobile terminal which is formed in a manner of attaching a transparent window onto a cover plate to remarkably reduce processing time and costs as compared with conventional numerically controlled machine tools and minimize defect rate by eliminating the likelihood that an errors occurs depending on the worker's skill, thus enhancing product reliability.

Another object of the present invention is to provide a flip cover plate for a mobile terminal with a transparent window formed using a separate hard coating film, presenting an enhanced surface hardness and strength, thus preventing damage that may occur upon the user's touch to provide more stable performance.

The above object is achieved by as flip cover plate for a mobile terminal according to an embodiment of the present

invention, comprising: a cover plate inserted in a flip cover opening and closing a front surface of the mobile terminal; and a transparent window coupled at a side of the cover plate to externally expose part of a liquid crystal display of the mobile terminal while the flip cover is positioned on the front surface of the mobile terminal, wherein the transparent window is formed by attaching the same onto at least one surface of the cover plate corresponding to an opening of the flip cover.

Here, according to an embodiment of the present invention, the cover plate may have a seating hole where the transparent window is seated, and the transparent window may be formed by injection-molding a transparent material and is then attached at the seating hole.

In this case, the transparent window may have a bonding part around an edge thereof, and a bonding groove corresponding to the bonding part may be formed in the seating hole to guide the transparent window to be seated while the bonding part and the bonding groove, engaged with each other, are simultaneously bonded by an ultrasonic wave or heat.

Further, the transparent window may include as base film, an adhesive layer formed on a side surface of the base film, facing the cover plate, a hardness reinforcing coating layer formed on another side surface of the base film, and a protective film formed on the hardness reinforcing coating layer.

Or, according to another embodiment, the transparent window may be formed by wet-coating SiO_2 on a surface of the cover plate.

Or, according to still another embodiment, the transparent window may be formed by attaching as hard coating film on a surface of the cover plate using an OCA.

In this case, the transparent window may be formed by sequentially stacking and attaching the hard coating film and one or more reinforcing films on a surface of the cover plate.

In each embodiment above, the cover plate may be formed through an injection molding process.

Further, in each embodiment above, the base film may be formed of PET or PC.

Further, in each embodiment above, the transparent window is preferably formed to be coplanar with a surface of the flip cover.

Further, in each embodiment above, a reinforcing member may be further formed in the cover plate adjacent to the transparent window to prevent a local deformation due to a warp of the cover plate and to prevent the transparent window from escaping.

Here, the reinforcing member may be formed in the cover plate corresponding to each of both ends of the transparent window, and the reinforcing member may be formed of a reinforcing pin with a longitudinal direction in a direction in which the cover plate warps.

Further, the reinforcing pin may be inserted and fixed in the cover plate by thermal compression.

Further, in each embodiment above, the transparent window may contain a material with a dielectric constant to allow for a touch input while the flip cover is positioned on the front surface.

Accordingly, the present invention may remarkably reduce processing time and costs as compared with conventional numerically controlled machine tools and minimize defect rate by eliminating the likelihood that an errors occurs depending on the worker's skill, thus enhancing product reliability.

Accordingly, the present invention may maximize productability as compared with conventional methods of manufacturing products by performing individual cutting processes using a NC machine.

Further, upon injection of the cover plate, the transparent window is not simultaneously formed, and thus, the molds may be simplified in shape, thus reducing manufacture costs. Further, production of parts proceeds in parallel, leading to further shortened production time along with a decreased defect rate.

Further, a reinforcing member is provided on a side of the transparent window, preventing a deformation of the cover plate or detachment of the transparent window due to a warp.

Further, according to another embodiment of the present invention, the transparent window may be formed by attaching a hard coating film, thus leading to easier manufacture of the flip cover plate, reduced manufacture time and costs, and enhanced measurement accuracy, along with a reduced defect rate.

The transparent window may be formed using a separate hard coating film, presenting an enhanced surface hardness and strength and resultantly preventing damage that may occur upon the user's touch to provide more stable performance.

Further, the transparent window may be formed by sequentially stacking and attaching a hard coating film and a separate reinforcing film, thus reducing the slight deformation of the hard coating film that may occur when the user touches for manipulation to prevent damage to the hard coating film. Accordingly, further increased durability may be achieved.

BRIEF DESCRIPTION OF THE DRAWINGS

FIGS. **1** and **2** are views illustrating an example of putting in a flip cover plate for a mobile terminal according to an embodiment of the present invention.

FIG. **3** is a perspective view illustrating a flip cover plate for a mobile terminal according to a first embodiment of the present invention.

FIG. **4** is a cross-sectional view illustrating a flip cover plate for a mobile terminal according to a second embodiment of the present invention.

FIG. **5** is a cross-sectional view illustrating a flip cover plate for a mobile terminal according to an embodiment of the present invention.

FIG. **6** is a view schematically illustrating the shape of an inner film of a mobile phone case according to a third embodiment of the present invention.

FIGS. **7** and **8** are magnified views each illustrating the structure of a transparent touch part of an inner plate according to the third embodiment of the present invention.

FIG. **9** is a magnified view illustrating the structure of a transparent touch part according to another embodiment of the present invention.

DESCRIPTION OF EXEMPLARY EMBODIMENTS

Hereinafter, the present invention is described in detail with reference to the accompanying drawings.

According to the present invention, a tube connection part **10** for a mobile terminal includes a cover plate **30** inserted in a flip cover **220** opening and closing a front surface **110** of a mobile terminal **100** and a transparent window **35** coupled at a side of the cover plate **30** to partially expose the liquid crystal display (LCD) of the mobile terminal **100** while the flip cover **220** is positioned on the front surface of the mobile terminal **100**. The transparent window **35** is formed in such a manner that the transparent window **35** is attached onto at least one surface of the cover plate **30** corresponding to an opening of the flip cover **220**.

The transparent window **35** may be prepared by various methods, and each embodiment is hereinafter described in detail.

First Embodiment

According to the first embodiment of the present invention, in the flip cover plate **10** for a mobile terminal, the transparent window **35** is formed by performing an injection molding process on a transparent material, and is then attached to the cover plate **30**.

The cover plate **30** is placed in the flip cover **220** opening and closing the front surface **110** of the mobile terminal **100**, as shown in FIG. **1**.

The flip cover **220** is rotatably coupled to the case body **210** coupled with the mobile terminal **100** at a rear surface and site surfaces thereof.

The cover plate **30** according to the present invention is preferably manufactured by an injection molding method as proposed in the Applicant's prior patent application, Korean Patent Application No. 2013-0060963.

Accordingly, as compared with conventional manufacturing methods using individual cutting through an NC machine, the present invention may maximize productability.

Further, unlike in the above-mentioned patent application, the transparent window **35** is not simultaneously formed upon injecting the cover plate **30**, and thus, the molds may be simplified in shape, thus reducing manufacture costs and the defect rate of products.

The cover plate **30** may be formed of various materials, preferably polycarbonate (PC) or a light transmissive material obtained by mixing polycarbonate and a glass material.

A seating hole **31** guides the transparent window to be seated.

The seating hole **31** is formed at a side of the cover plate **30** as shown in FIG. **3** and guides the coupling position of the transparent window **35**.

The transparent window **35** is coupled at a side of the cover plate **30** to partially expose the LCD of the mobile terminal **100** to the outside while the flip cover **220** is positioned on the front surface **110** of the mobile terminal **100**.

That is, as shown in FIG. **2**, the transparent window **35** is configured to alloy the user to check time or information on callers even without opening the flip cover **220**, thus maximizing user convenience.

The transparent window **35** may be prepared in various manners. For example, as shown in FIG. **3**, the transparent window **35** may be formed by injection molding and may be attached, or as shown in FIG. **4**, the transparent window **35** may be formed by stacking multiple films and may be attached.

First, referring to FIG. **3**, the transparent window **35** may be formed by performing injection molding on a transparent material.

The transparent window **35** may be formed of various materials, preferably an acrylic material for enhancing light transmittance.

The transparent window **35** may be attached to the cover plate **30** by various methods. For example, the transparent window **35** may be attached to the cover plate **30** by an adhesive or by an ultrasonic or thermal bonding.

According to the latter method, as shown in FIG. **3**, a bonding part **351** may be formed around the edge of the

transparent window **35**, a bonding groove **311** may be formed in the seating hole **31**, corresponding to the bonding part **351**.

Accordingly, while the transparent window **35** is guided to be seated, the bonding part **351** and the bonding groove **311** engaged with each other may be bonded by heat or ultrasonic wave.

The following configuration is applied to not only the instant embodiment but also other embodiments to be described below without limitations, and accordingly, the description of the other embodiments is omitted.

Meanwhile, in each of the above embodiments, a reinforcing member **40** may be further formed in the cover plate **30** adjacent to the transparent window **35** to prevent the cover plate **30** from locally deforming due to a warp and to prevent the transparent window **35** from escaping.

That is, as shown in FIG. **5**, in case the cover plate **30** is warped in the direction marked with the arrows, the stress concentrates around the transparent window **35** that is relatively thin.

This would not be a significant problem if the cover plate **30** and the transparent window **35** are formed as a single body. However, in case the cover plate **30** and the transparent window **35** are separated like in the instant invention, the flip cover **220** may remain deformed without turning back to its original shape, or the transparent window **35** may be spaced apart from the cover plate **30** causing a floating or separation.

However, the reinforcing member **40** formed as shown in FIG. **5** may prevent the cover plate **30** from remaining deformed or prevent the transparent window **35** from escaping.

Various types of reinforcing members **40** may be provided. For example, as shown in FIG. **5**, reinforcing members **40** may be reinforcing pins that are respectively formed at both ends of the transparent window **35** and whose longitudinal direction corresponds to the direction in which the cover plate **30** is warped.

In such case, the reinforcing pins may be inserted and fixed in the rover plate **30** by thermal compression.

In each of the above embodiments, the transparent window may contain a material with a dielectric constant to allow for a touch input while the flip cover is positioned on the front surface.

Second Embodiment

According to the second embodiment of the present invention, in the flip cover plate **10** for a mobile terminal, the transparent window **35** is formed by stacking multiple films including a base film **355**.

That is, according to this embodiment, the transparent window **35** may be provided with multiple film layers and may be attached onto the cover plate **30**. For example, as shown in FIG. **4**, the transparent window **35** may include the base film **355**, an adhesive layer **356** formed on a side surface of the base film **355**, facing the cover plate **30**, a hardness reinforcing coating layer **357** formed on the other side surface of the base film **355**, and a protective film **358** formed on the hardness reinforcing coating layer **357**.

Here, the base film **355** may be formed of polyethylene terephthalate (PET), and the adhesive layer **356** may be formed of an optically clear adhesive (OCA).

Third Embodiment

According to the third embodiment of the present invention, in the flip cover plate **10** for a mobile terminal, the transparent window **35** is attached on to surface of the cover plate **30** by a hard coating film **359**.

That is, according to this embodiment, a case **200** includes a case body **210** covering a rear surface and sick surfaces of the mobile terminal **100**, a flip cover **220** rotatably provided on a side of the case body **210** to open and close the front surface **110** of the mobile terminal **100**, and a cover plate **30** inserted in the flip cover **220**.

The case body **210** is formed to have an opening at a surface thereof to provide a space for accommodating the mobile terminal **100**, and the flip cover **220** is coupled to the case body **210** via a soft material to be rotatable. The flip cover **220** rotates about the case body **210** to open and close the front surface **110** of the mobile terminal **100** accommodated in the case body **210**. That is, the flip cover **220** externally exposes or blocks and protects the front surface of the mobile terminal **100** from the outside.

The flip cover **220** rotates to block the front surface **110** of the mobile terminal **100** from the outside and contacts the front surface **110** of the mobile terminal **100**. Accordingly, the flip cover **220** is formed of as soft material not to damage the touch panel and display screen formed on the front surface **110** of the mobile terminal **100**. Thus, the plate-shaped cover plate **30** is placed in the flip cover **220** to allow the structure a strength.

Meanwhile, the flip cover **220** has an opening **211** at a side thereof, allowing part of the display screen formed on the front surface **110** of the mobile terminal **100** to be viewed from outside, and the transparent window **35** is formed in the cover plate **30** to be externally exposed through the opening **211**. In this case, it is preferable that when the flip cover **220** rotates to contact the front surface **110** of the mobile terminal **100**, the inner surface of the transparent window **35** comes in contact with the front surface **110** of the mobile terminal **100**, and thus, the transparent window **35** is formed coplanar with the surface of the flip cover **220** as shown in FIG. **6**. In other words, the transparent window **35** is formed on the surface of the cover plate **30** at the same thickness as a height of the case surface so that no step may be formed between the region where the opening **211** is formed and the surface of the flip cover **220**. Accordingly, it is preferable to form the transparent window **35** on each of both surfaces of the cover plate **30** from a perspective of arrangement. Of course, as necessary, the transparent window **35** may be formed only on one surface of the cover plate **30**.

The transparent window **35** is formed to allow the display screen formed on the front surface **110** of the mobile terminal **100** to be viewed from outside as well as to allow the front surface **110** of the mobile terminal **100** to be manipulated by touching. For example, as shown in FIG. **2**, the user may check, with his naked eyes, time displayed on the front surface **110** of the mobile terminal **100** through the transparent window **35**, and if there is an incoming call, the user may manipulate the mobile terminal **100** by touching the front surface **110** the mobile terminal **100** through the transparent window **35**, so that be can start to talk on the phone even without rotating and opening the flip cover **220**. Accordingly, the transparent window **35** is formed of a transparent material with a dielectric constant so as to conduct such two functions both. Of course, this may be applicable to the above embodiments.

In this case, according to the instant embodiment, the transparent window **35** is by attaching the hard coating film **359** on the surface of the cover plate **30**.

In other words, a typical cover plate **30** is formed integrally with a transparent window **35** with a relatively large thickness by, e.g., a cutting process using CNC processing as described

above in the Related art section. In contrast, however, the transparent window **35** according to an embodiment of the present invention is formed in a way to attach a separate hard coating film **359** onto the surface of the flat cover plate **30**, unlike in the conventional art, thus reducing manufacture time and costs and significantly decreasing defect rate.

Further, according to this embodiment, the cover plate **3** may be formed by performing an injection molding process on a resin material, such as PET or PC. Such manufacturing process of forming the cover plate **30** by injection molding, not CNC processing, may enhance measurement accuracy of the cover plate **30** while remarkably reducing manufacture time and costs.

Meanwhile, if the cover plate **30** is injection-molded using a resin material, the transparent window **35** may also be formed integrally in the course of injection folding. In such case, since the transparent window **35** is formed of a resin material like the cover plate **30**, it, by the nature of the material, ends up with low strength and hardness, and thus, the transparent window **35** may be damaged upon the user's touch and manipulation.

In this embodiment, the transparent window **35** is formed in a manner to attach the hard coating film **359** onto the surface of the cover plate **30**, allowing the transparent window **35** an increased strength and hardness.

In this case, the hard coating film **359** of the transparent window **35** may be formed by coating a material with a high strength and hardness onto a surface of the base film **355**. Preferably, an organic material, such as a silicon- or fluorine-based resin, or inorganic material may be coated onto a surface of the base film. For example, the transparent window **35** may be formed by wet-coating silicon dioxide (SiO_2) onto a surface of the base film formed of PET or PC, or the transparent window **35** may be formed by vacuum depositing an inorganic material, such as MgF_2, zirconium dioxide (ZrO_2), or cesium fluoride (CeF_4), onto a surface of the base layer. Such wet coating or vacuum depositing is a widely used technique, and no further description thereof is given.

More preferably, silicon dioxide (SiO_2) may be vacuum-deposited on an outer surface of the hard coating film **359** which is frequently contacted by the user's hand to prevent the user's fingerprints to be left on the transparent window **35**.

Meanwhile, the transparent window **35** may be formed by attaching the hard coating film **359** on the surface of the cover plate **30** using an optically clear adhesive (OCA) **312**. The transparent window **35** should remain light-transmissive to allow the front surface **110** of the mobile terminal **100** to be viewed from outside. Accordingly, it is preferable to use as transparent adhesive, such as OCA, when attaching the hard coating film **359**.

By such structure, the transparent window **35** is formed with the OCA **312** and the hard coating film **359** stacked one over the other at thickness d to allow itself to be coplanar with the surface of the flip cover **220** as shown in FIG. **7**.

In such case, when the user touches and pressures the transparent window **35** for manipulation, the hard coating film **359** may be slightly bent or deformed around the touched portion and so damaged because of the nature of the OCA **312** relatively soft.

To prevent such damage to the hard coating film **359**, a reinforcing film **313** may be formed between the hard coating film **359** of the transparent window **35** and the cover plate **30** as shown in FIG. **8**, according to an embodiment of the present invention. In this case, the reinforcing film **313** is preferably formed of a transparent material, such as PET or PC.

That is, the transparent window **35** may be formed by sequentially stacking and attaching the reinforcing film **313** and the protective film **358** separately on a surface of the cover plate **30**.

For example, the separate reinforcing film **313** may be attached onto a surface of the cover plate **30** using a transparent adhesive, the OCA **312**, and then, the hard coating film **359** may be attached onto a surface of the reinforcing film **313** using the OCA **312**.

In this case, although not shown, a plurality of reinforcing films **313** may be stacked and attached using the OCA **312**.

As such it is preferable to leave the transparent window **35** at thickness d, as described above in connection with FIG. **4**, even when forming the transparent window **35** by sequentially stacking and attaching the reinforcing film **313** and the hard coating film **359** on a surface of the cover plate **30**. In such case, although the user touches the transparent window **35** for manipulation or pressurizes the outer surface of the hard coating film **359**, since the OCA layer **312** is relatively thin, the degree of deformation of the hard coating film **359** around the pressurized portion is relatively reduced as compared with the case illustrated in FIG. **8**. Further, from the stack structure of the **357** and die hard coating film **359**, the hard coating film **359** is backed up in strength by the reinforcing film **313**, and the degree of deformation of the hard coating film **359** is relatively reduced. Accordingly, the transparent window **35** of such structure may prevent damage to the hard coating film **359**, leading to further increased durability.

According to the instant embodiment, at least one of the cover plate **30**, the hard coating film **359**, and the reinforcing film **313** may be mixed with paint with a color, allowing the transparent window **35** a predetermined color to meet the user's preference.

Meanwhile, with the development of display technology, the front surface **110** of the mobile terminal **100** may come in curved shape. As such, when the front surface **110** of the mobile terminal **100** is curved, the flip cover **220** of the dust filter **200** should be formed curved as well. Accordingly, the cover plate **30** and the transparent window **35** placed in the flip cover **220** are also formed to have a curved surface as shown in FIG. **9**. In such case, if the inner film and transparent touch part are subjected to CNC processing as in the prior art, the transparent touch part with the same curved surface as the inner film is difficult to cutting-process, and thus, the defect rate is increased.

According to an embodiment of the present invention, the cover plate **30** may be easily formed through an injection molding process to have a curved surface, and the transparent window **35** may be formed by simply attaching the hard coating film **359** onto the curved cover plate **30**. Accordingly, a curved cover plate **30** and transparent window **35** may be easily manufactured.

While the inventive concept has been shown and described with reference to exemplary embodiments thereof, it will be apparent to those of ordinary skill in the art that various changes in form and detail may be made thereto without departing from the spirit and scope of the inventive concept as defined by the following claims.

What is claimed is:

1. A flip cover plate for a mobile terminal, comprising:

a cover plate inserted in a flip cover opening and closing a front surface of the mobile terminal; and a transparent window coupled at a side of the cover plate to externally expose part of a liquid crystal display of the mobile terminal while the flip cover is positioned on the front surface of the mobile terminal, wherein the transparent

window is formed by attaching the same onto at least one surface of the cover plate corresponding to an opening of the flip cover.

2. The flip cover plate of claim **1**, wherein the cover plate has a seating hole where the transparent window is seated, and wherein the transparent window is formed by injection-molding a transparent material and is then attached to the seating hole.

3. The flip cover plate of claim **2**, wherein the transparent window has a bonding part around an edge thereof, wherein a bonding groove corresponding to the bonding part is formed in the seating hole to guide the transparent window to be seated while the bonding part and the bonding groove, engaged with each other, are simultaneously bonded by an ultrasonic wave or heat.

4. The flip cover plate of claim **1**, wherein the transparent window includes a base film, an adhesive layer formed on a side surface of the base film, Facing the cover plate, a hardness reinforcing coating layer formed on another side surface of the base film, and a protective film formed on the hardness reinforcing coating layer.

5. The flip cover plate of claim **1**, wherein the transparent window is formed by wet-coating SiO_2 on a surface of the cover plate.

6. The flip cover plate of claim **1**, wherein the transparent window is formed by attaching a hard coating film on a surface of the cover plate using an OCA.

7. The flip cover plate of claim **6**, wherein the transparent window is formed by sequentially stacking and attaching the hard coating film and one or more reinforcing films on a surface of the cover plate.

8. The flip cover plate of claim **1**, wherein the cover plate is formed through an injection molding process.

9. The flip cover plate of claim **1**, wherein the base film is formed of PET or PC.

10. The flip cover plate of claim **1**, wherein the transparent window is formed to be coplanar with a surface of the flip cover.

11. The flip cover plate of claim **1**, wherein a reinforcing member is further formed in the cover plate adjacent to the transparent window to prevent a local deformation due to a warp of the cover plate and to prevent the transparent window from escaping.

12. The flip cover plate of claim **11**, wherein the reinforcing member is formed in the cover plate corresponding to each of both ends of the transparent window, and wherein the reinforcing member is formed of a reinforcing pin with a longitudinal direction in a direction in which the cover plate warps.

13. The flip cover plate of claim **12**, wherein the reinforcing pin is inserted and fixed in the cover plate by thermal compression.

14. The flip cover plate of claim **1**, wherein the transparent window includes a material with a dielectric constant to allow for a touch input while the flip cover is positioned on the front surface.

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